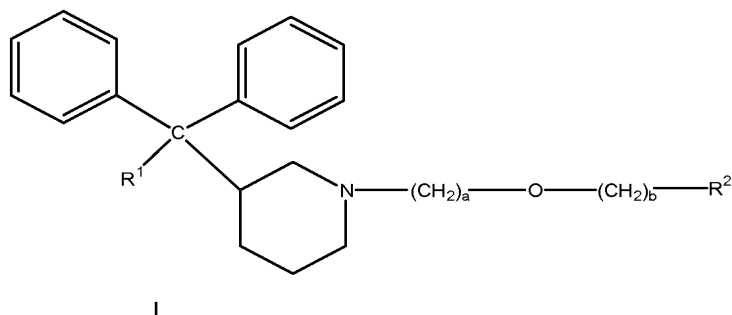


We claim:

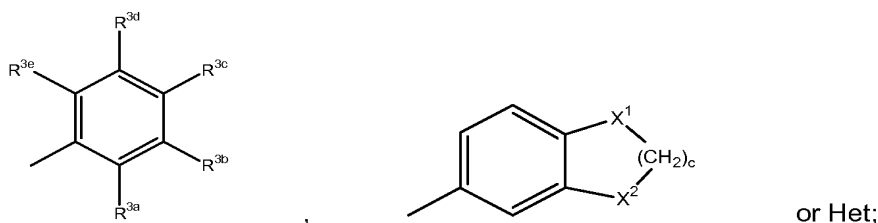
1. A compound of Formula I:



- 5 wherein:

$R^1$  is  $-\text{CN}$  or  $-\text{CONR}^4\text{R}^5$ ;

$R^2$  is  $\text{C}_1\text{-C}_4$  alkyl,  $\text{C}_3\text{-C}_6$  cycloalkyl,  $\text{C}_3\text{-C}_6$  heterocycloalkyl,  $\text{C}_6\text{-C}_{14}$  aryl, or a group of the formula:



- 10  $R^{3a}$ ,  $R^{3b}$ ,  $R^{3c}$ ,  $R^{3d}$  and  $R^{3e}$  are each independently H,  $\text{C}_1\text{-C}_4$  alkyl,  $\text{C}_1\text{-C}_4$  alkoxy,  $-(\text{CH}_2)_d\text{OH}$ , halo, trifluoromethyl, cyano,  $-(\text{CH}_2)_d\text{NR}^6\text{R}^7$ ,  $-\text{CO}(\text{C}_1\text{-C}_4 \text{ alkyl})$ ,  $-\text{OCO}(\text{C}_1\text{-C}_4 \text{ alkyl})$ ,  $-\text{CH}(\text{OH})(\text{C}_1\text{-C}_4 \text{ alkyl})$ ,  $-\text{C}(\text{OH})(\text{C}_1\text{-C}_4 \text{ alkyl})_2$ ,  $-\text{SO}_2\text{NH}_2$ ,  $-(\text{CH}_2)_d\text{CONR}^8\text{R}^9$  or  $-(\text{CH}_2)_d\text{COO}(\text{C}_1\text{-C}_4 \text{ alkyl})$ ;

$R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$  and  $R^9$  are each independently H or  $\text{C}_1\text{-C}_4$  alkyl;

- 15 Het is pyridyl, pyrazinyl or thienyl;

a is 1, 2, 3 or 4;

b is 1, 2 or 3;

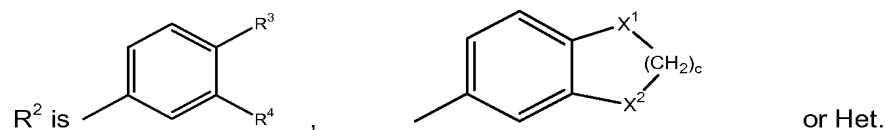
c is 1, 2 or 3;

d is 0, 1 or 2; and

- 20  $X^1$  and  $X^2$  are each independently  $\text{CH}_2$  or O;

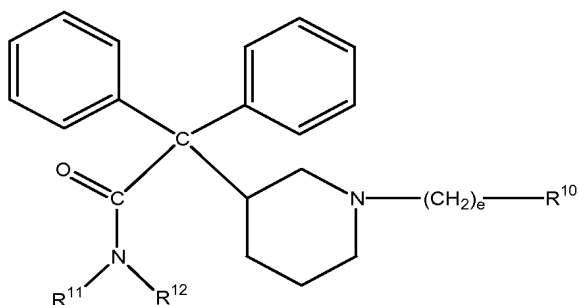
or a pharmaceutically acceptable salt or solvate thereof.

2. A compound according to claim 1 wherein:



25

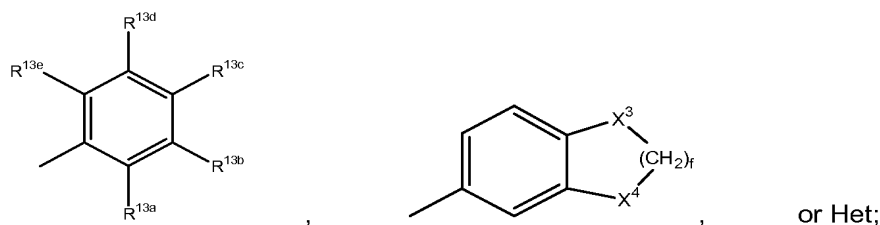
3. A compound of Formula II:



II

wherein:

5  $R^{10}$  is a group of the formula:



or Het;

$R^{11}$  and  $R^{12}$  are each independently H or  $C_1$ - $C_4$  alkyl, with the proviso that  $R^{11}$  and  $R^{12}$  are not both H;

$R^{13a}$ ,  $R^{13b}$ ,  $R^{13c}$ ,  $R^{13d}$ , and  $R^{13e}$  are each independently H,  $C_1$ - $C_4$  alkyl,  $C_1$ - $C_4$  alkoxy, -  
 10  $(CH_2)_gOH$ , halo, trifluoromethyl, cyano,  $-(CH_2)_gNR^{14}R^{15}$ ,  $-CO(C_1-C_4 \text{ alkyl})$ ,  $-OCO(C_1-C_4 \text{ alkyl})$ ,  $-CH(OH)(C_1-C_4 \text{ alkyl})$ ,  $-C(OH)(C_1-C_4 \text{ alkyl})_2$ ,  $-SO_2NH_2$ ,  $-(CH_2)_gCONR^{16}R^{17}$  or  $-(CH_2)_gCOO(C_1-C_4 \text{ alkyl})$ ;

$R^{14}$ ,  $R^{15}$ ,  $R^{16}$  and  $R^{17}$  are each independently H or  $C_1$ - $C_4$  alkyl;

Het is pyridyl, pyrazinyl or thienyl;

15 e is 1, 2 or 3;

f is 1, 2 or 3;

g is 0, 1 or 2; and

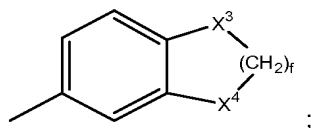
$X^3$  and  $X^4$  are each independently  $CH_2$  or O;

or a pharmaceutically acceptable salt or solvate thereof.

20

4. A compound according to claim 14 wherein:

$R^{10}$  is a group of the formula:



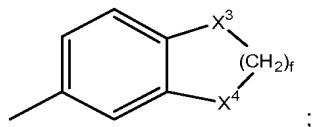
$X^3$  is O; and

$X^4$  is  $CH_2$ .

25

5. A compound according to claim 14 wherein:

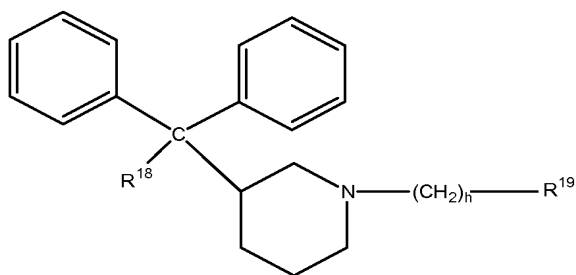
$R^{10}$  is a group of the formula:



5

$X^3$  is  $CH_2$ ; and  
 $X^4$  is O.

6. A compound of Formula III:



10

III

wherein:

$R^{18}$  is  $-CN$  or  $-CONR^{20}R^{21}$ ;

$R^{19}$  is  $C_3$ - $C_6$  cycloalkyl,  $C_3$ - $C_6$  heterocycloalkyl or  $(C_6$ - $C_{14}$  aryl)-(C<sub>1</sub>-C<sub>4</sub> alkyl)<sub>v</sub>;

$R^{20}$  and  $R^{21}$  are each independently H or C<sub>1</sub>-C<sub>4</sub> alkyl;

15

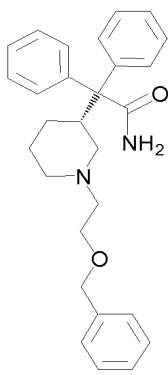
h is 1, 2, 3 or 4; and

v is 0, 1 or 2;

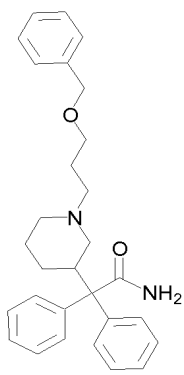
or a pharmaceutically acceptable salt or solvate thereof.

7. A compound selected from:

20

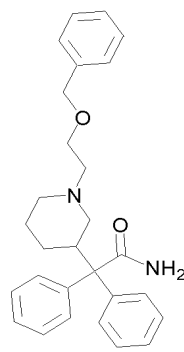


,



,

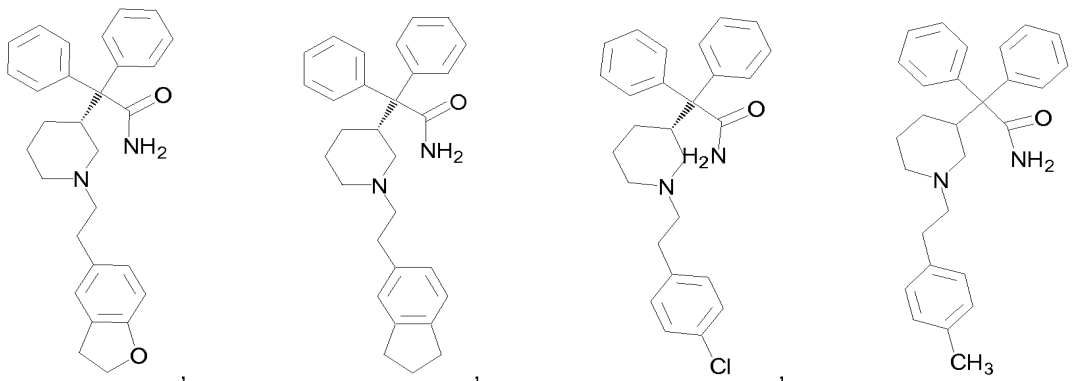
and



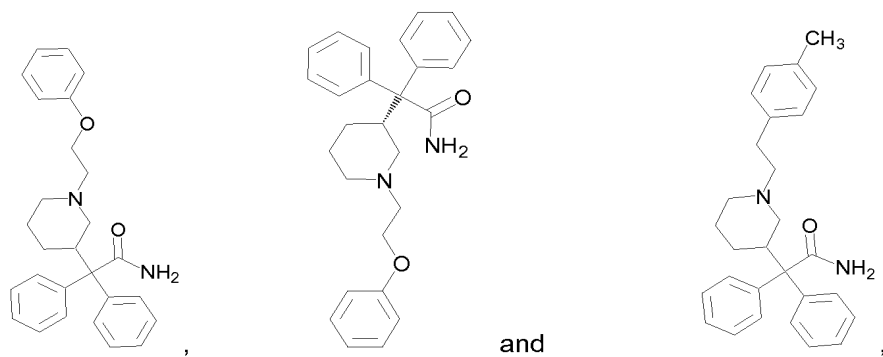
,

or a pharmaceutically acceptable salt or solvate thereof.

8. A compound selected from:

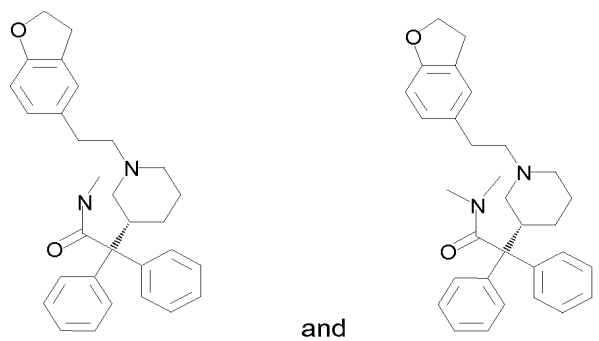


5



or a pharmaceutically acceptable salt or solvate thereof.

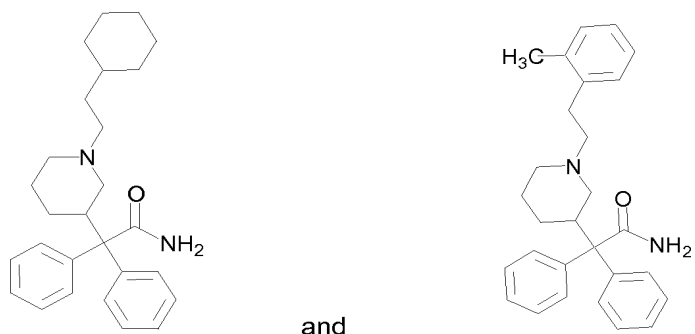
10 9. A compound selected from:



or a pharmaceutically acceptable salt or solvate thereof.

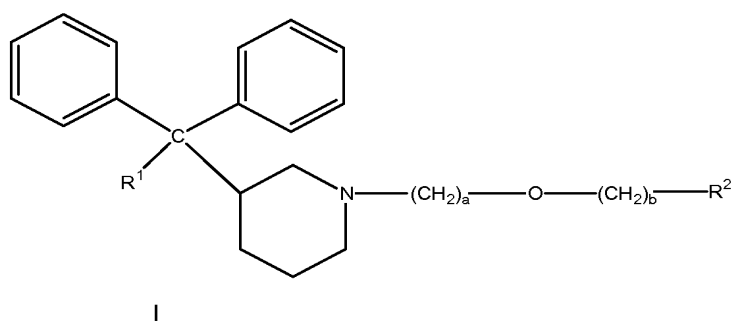
15

10. A compound selected from:



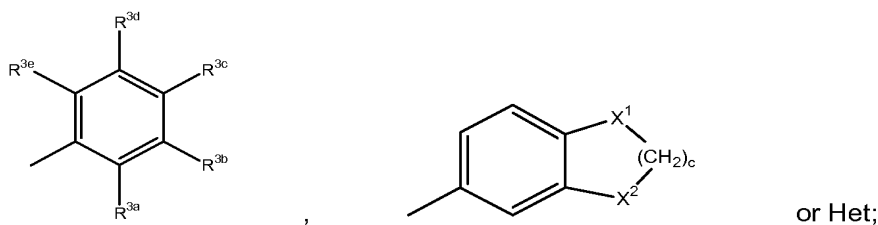
or a pharmaceutically acceptable salt or solvate thereof.

11. A method of treating a mammal infected with human immunodeficiency virus (HIV) comprising administering to said mammal an effective amount of a compound of Formula I:



wherein:

- 10  $R^1$  is  $-\text{CN}$  or  $-\text{CONR}^4\text{R}^5$ ;  
 $R^2$  is  $\text{C}_1$ - $\text{C}_4$  alkyl,  $\text{C}_3$ - $\text{C}_6$  cycloalkyl,  $\text{C}_3$ - $\text{C}_6$  heterocycloalkyl,  $\text{C}_6$ - $\text{C}_{14}$  aryl, or a group of the formula:



- 15  $R^{3a}$ ,  $R^{3b}$ ,  $R^{3c}$ ,  $R^{3d}$  and  $R^{3e}$  are each independently H,  $\text{C}_1$ - $\text{C}_4$  alkyl,  $\text{C}_1$ - $\text{C}_4$  alkoxy,  $-(\text{CH}_2)_d\text{OH}$ , halo, trifluoromethyl, cyano,  $-(\text{CH}_2)_d\text{NR}^6\text{R}^7$ ,  $-\text{CO}(\text{C}_1$ - $\text{C}_4$  alkyl),  $-\text{OCO}(\text{C}_1$ - $\text{C}_4$  alkyl),  $-\text{CH}(\text{OH})(\text{C}_1$ - $\text{C}_4$  alkyl),  $-\text{C}(\text{OH})(\text{C}_1$ - $\text{C}_4$  alkyl) $_2$ ,  $-\text{SO}_2\text{NH}_2$ ,  $-(\text{CH}_2)_d\text{CONR}^8\text{R}^9$  or  $-(\text{CH}_2)_d\text{COO}(\text{C}_1$ - $\text{C}_4$  alkyl);

$R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$  and  $R^9$  are each independently H or  $\text{C}_1$ - $\text{C}_4$  alkyl;

Het is pyridyl, pyrazinyl or thienyl;

- 20 a is 1, 2, 3 or 4;

b is 1, 2 or 3;

c is 1, 2 or 3;

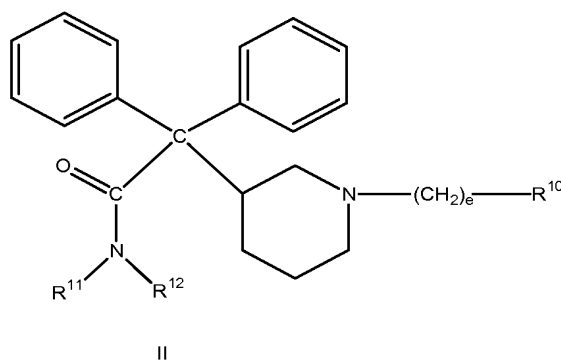
d is 0, 1 or 2; and

X<sup>1</sup> and X<sup>2</sup> are each independently CH<sub>2</sub> or O;

or a pharmaceutically acceptable salt or solvate thereof.

5

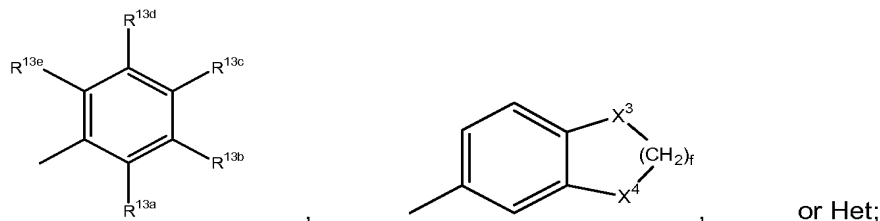
12. A method of treating a mammal infected with human immunodeficiency virus (HIV) comprising administering to said mammal an effective amount of a compound of Formula II:



10

wherein:

R<sup>10</sup> is a group of the formula:



R<sup>11</sup> and R<sup>12</sup> are each independently H or C<sub>1</sub>-C<sub>4</sub> alkyl, with the proviso that R<sup>11</sup> and R<sup>12</sup>

15 are not both H;

R<sup>13a</sup>, R<sup>13b</sup>, R<sup>13c</sup>, R<sup>13d</sup>, and R<sup>13e</sup> are each independently H, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, -(CH<sub>2</sub>)<sub>9</sub>OH, halo, trifluoromethyl, cyano, -(CH<sub>2</sub>)<sub>9</sub>NR<sup>14</sup>R<sup>15</sup>, -CO(C<sub>1</sub>-C<sub>4</sub> alkyl), -OCO(C<sub>1</sub>-C<sub>4</sub> alkyl), -CH(OH)(C<sub>1</sub>-C<sub>4</sub> alkyl), -C(OH)(C<sub>1</sub>-C<sub>4</sub> alkyl)<sub>2</sub>, -SO<sub>2</sub>NH<sub>2</sub>, -(CH<sub>2</sub>)<sub>9</sub>CONR<sup>16</sup>R<sup>17</sup> or -(CH<sub>2</sub>)<sub>9</sub>COO(C<sub>1</sub>-C<sub>4</sub> alkyl);

20 R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup> and R<sup>17</sup> are each independently H or C<sub>1</sub>-C<sub>4</sub> alkyl;

Het is pyridyl, pyrazinyl or thienyl;

e is 1, 2 or 3;

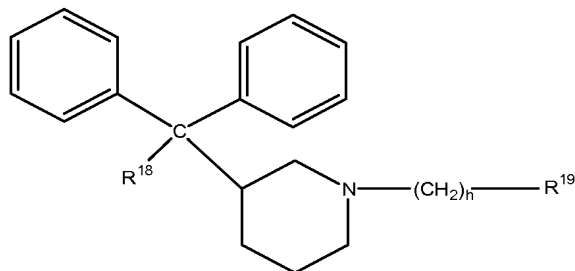
f is 1, 2 or 3;

g is 0, 1 or 2; and

25 X<sup>3</sup> and X<sup>4</sup> are each independently CH<sub>2</sub> or O;

or a pharmaceutically acceptable salt or solvate thereof.

13. A method of treating a mammal infected with human immunodeficiency virus (HIV) comprising administering to said mammal an effective amount of a compound of Formula III:



III

5 wherein:

$R^{18}$  is  $-\text{CN}$  or  $-\text{CONR}^{20}\text{R}^{21}$ ;

$R^{19}$  is  $\text{C}_3\text{-C}_6$  cycloalkyl,  $\text{C}_3\text{-C}_6$  heterocycloalkyl or  $(\text{C}_6\text{-C}_{14} \text{ aryl})-(\text{C}_1\text{-C}_4 \text{ alkyl})_v$ ;

$R^{20}$  and  $R^{21}$  are each independently H or  $\text{C}_1\text{-C}_4$  alkyl;

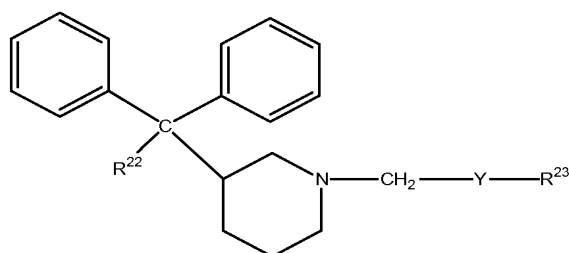
$h$  is 1, 2, 3 or 4; and

10  $v$  is 0, 1 or 2;

or a pharmaceutically acceptable salt or solvate thereof.

14. A method of treating a mammal infected with human immunodeficiency virus (HIV) comprising administering to said mammal an effective amount of a compound according to

15 Formula IV:



IV

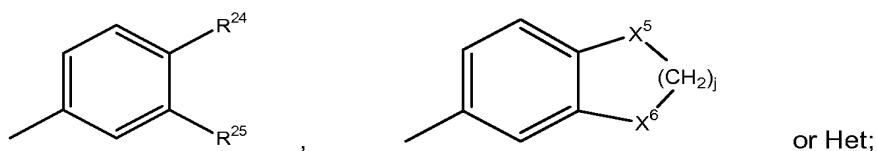
wherein:

20  $Y$  is a direct link,  $-\text{CH}_2-$ ,  $-(\text{CH}_2)_2-$ ,  $-\text{CH}_2\text{O}-$  or  $-\text{CH}_2\text{S}-$ ;

$R^{22}$  is  $-\text{CN}$  or  $-\text{CONH}_2$ ;

$R^{23}$  is a group of the formula:

- 53 -



wherein

R<sup>24</sup> and R<sup>25</sup> are each independently H, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, -(CH<sub>2</sub>)<sub>k</sub>OH, halo, trifluoromethyl, cyano, -(CH<sub>2</sub>)<sub>k</sub>NR<sup>26</sup>R<sup>27</sup>, -CO(C<sub>1</sub>-C<sub>4</sub> alkyl), -OCO(C<sub>1</sub>-C<sub>4</sub> alkyl), -CH(OH)(C<sub>1</sub>-C<sub>4</sub> alkyl), -C(OH)(C<sub>1</sub>-C<sub>4</sub> alkyl)<sub>2</sub>, -SO<sub>2</sub>NH<sub>2</sub>, -(CH<sub>2</sub>)<sub>k</sub>CONR<sup>26</sup>R<sup>27</sup> or -(CH<sub>2</sub>)<sub>k</sub>COO(C<sub>1</sub>-C<sub>4</sub> alkyl);

R<sup>26</sup> and R<sup>27</sup> are each independently H or C<sub>1</sub>-C<sub>4</sub> alkyl;

k is 0, 1 or 2;

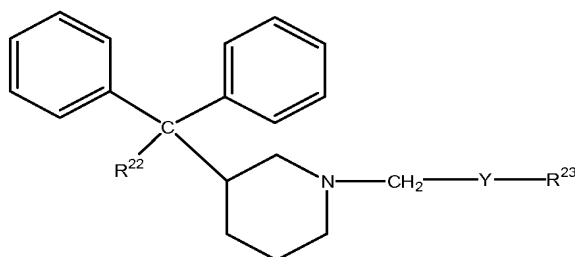
X<sup>5</sup> and X<sup>6</sup> are each independently O or CH<sub>2</sub>;

j is 1, 2 or 3; and

Het is pyridyl, pyrazinyl or thienyl;

or a pharmaceutically acceptable salt or solvate thereof.

15. A pharmaceutical composition that is effective in treating HIV in an infected mammal comprising a pharmaceutically acceptable carrier and an effective amount of a compound of Formula IV:



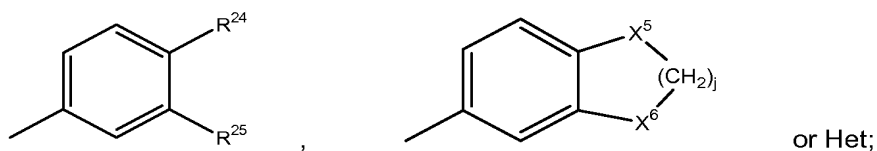
IV

wherein:

Y is a direct link, -CH<sub>2</sub>-, -(CH<sub>2</sub>)<sub>2</sub>-, -CH<sub>2</sub>O- or -CH<sub>2</sub>S-;

R<sup>22</sup> is -CN or -CONH<sub>2</sub>;

R<sup>23</sup> is a group of the formula:



wherein



$R^{24}$  and  $R^{25}$  are each independently H, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy,  $-(CH_2)_kOH$ , halo, trifluoromethyl, cyano,  $-(CH_2)_kNR^{26}R^{27}$ ,  $-CO(C_1-C_4 \text{ alkyl})$ ,  $-OCO(C_1-C_4 \text{ alkyl})$ ,  $-CH(OH)(C_1-C_4 \text{ alkyl})$ ,  $-C(OH)(C_1-C_4 \text{ alkyl})_2$ ,  $-SO_2NH_2$ ,  $-(CH_2)_kCONR^{26}R^{27}$  or  $-(CH_2)_kCOO(C_1-C_4 \text{ alkyl})$ ;

$R^{26}$  and  $R^{27}$  are each independently H or C<sub>1</sub>-C<sub>4</sub> alkyl;

5      k is 0, 1 or 2;

$X^5$  and  $X^6$  are each independently O or CH<sub>2</sub>;

j is 1, 2 or 3; and

Het is pyridyl, pyrazinyl or thienyl;

or a pharmaceutically acceptable salt or solvate thereof.

10